

Remarks/Arguments

The Final Office Action mailed August 13, 2004 has been received and carefully reviewed. Claim 1 - 9 are currently pending in the application.

The Examiner has rejected Claims 1 -9 as being anticipated by Meirsman et al. (U.S. Patent No. 6,636,923, hereinafter "Meirsman"). The rejections are respectfully traversed.

The specification has been amended to correct idiomatic differences, add units to certain numbers and to conform the specification to the claims as the claims are currently constituted.

The following remarks are made to address the rejections and further the prosecution of this application. Claims 1 -9 have been amended in some cases in minor ways in order to bring the claims into alignment with current US practice. .

As amended Claim 1 recites:

An apparatus for receiving audio-visual programs comprising a circuit for communication with means of connection to a bi-directional communication network, wherein the apparatus comprises:

- a first connector of a communication bus with a master apparatus, the first connector comprising at least one conductor for the transmission of a supply voltage (VBUS) originating from the master apparatus,
- at least one second connector of a said communication bus, each second connector allowing the connection of at least one peripheral device,
- a splitter connected on the one hand to the first connector and the at least one second connectors through a switching circuit and on the other hand to a controller,
- means of detection of the presence of the supply voltage (VBUS) in the first connector, the means of detection being linked to the first connector and generating a switching control signal to the switching circuit, in response to the presence of the supply voltage so as to switch the apparatus from a first mode of operation to a second mode of operation where the switching circuit establishes communications between the master apparatus connected to the first connector and said at least one peripheral device connected to said at least one second connector. (emphasis added)

The present invention is directed to an apparatus that includes a switching circuit for changing or altering the operating mode of the apparatus from a master mode to a slave mode (peripheral mode) or vice versa, in response to the presence of a supply voltage. Specifically, Claim 1 recites a switching circuit and a means for detection of the presence of the supply voltage, wherein the means for detecting the presence of the supply voltage controls the state of the apparatus and the switching circuit.

Meirsman describes a hub station that includes host processor 24 coupled to hub circuit 22 for allowing the hub station to be part of more than one independent USB-like communication system at the same time. When a host station is connected to host connector 26, the apparatus is capable of functioning as a pair of hub stations, one hub station connecting the local host processor 24 to respective slave connectors 28a - c, and the host station to its respective slave connectors 28a-c. The communication between the slave devices (11, 13, 15 and 16) and the host (10) according to Meirsman's description is managed by software flags. See col. 5, lines 23 - 29 in which "the apparatus 20 contains a number of flag storage locations 29 accessible both for the local host processor and the hub circuit 22, to represent whether or not respective ones of the slave connectors are in use by the local host processor 24. The hub circuit 22 reports slave connectors 28a-c to the new host as disconnected if the flags indicate that these slave connectors are in use." (emphasis added) Therefore, the communication management is performed by software by interrogating each connector 28 of the device 20 to determine if the connector is in use, where "in use" determines which of the two sub-networks the connector is used in rather than if it is being used as a master apparatus or a slave apparatus. Further, at col. 4, lines 43 - 45 according to Meirsman "This is realized for example by suitable computer programs loaded in the local host processor for controlling the ports." Therefore, the device of Meirsman requires hub circuit 22 to scan all the input/output connectors.

In contrast, the switching circuit of the present invention does not manage the communication as described by Meirsman. By detecting the presence of the supply voltage provided by an external apparatus, the switching circuit establishes communication between the master apparatus and at least one peripheral device connected to another connector. If a slave apparatus is connected to the host connector 12, it does not provide a supply voltage so it cannot then communicate with the main processor 15. In this manner, the apparatus 1 does not need to manage the communications with the connected apparatus. By interrogating the state of the line 100.1 (that represents the presence or absence of the supply voltage) the main processor 15 knows the state of the connection. The main processor does not need to manage flags as is required by the device of Meirsman.

Applicants respectfully disagree with the Examiner concerning his opinion regarding claims 4 and 5. Meirsman does not describe the switching circuit of the present invention. Meirsman describes at col. 4, lines 31 - 37 and Fig. 2 "In case a host station connected to the host connector 26, the apparatus can operate as a normal hub station, the hub circuit 22 performing the known functions of the hub station. In case no host station is connected to the host connector 26, the local host processor 24 operates as host processor, communicating with slave stations connected to the slave connectors 28a-c." Therefore, a host linked by connection 26 can communicate with any slave device (11, 13, 15 and 16) via hub circuit 22. In contrast, in the present invention the communication is direct without passing through controller 14.

The Universal Serial Bus Specification specifies the protocol for communication between several pieces of apparatus. It does not specify how to implement this protocol. The most probable manner for a person of ordinary skill in the art to implement this protocol consists of using known circuitry such as a hub circuit and software - not using the features of the present invention, notably the switching circuit.

Therefore, it is believed that the switching circuit of the present invention is neither disclosed nor suggested by Meirsman. Applicants respectfully submit that Merisman fails to disclose or suggest a notable feature of the present invention as recited in amended independent claim 1.

In light of the above remarks, it is respectfully submitted that independent claim 1 is not anticipated and is patentable over the art of record. Claims 2 -9 depend directly or indirectly from independent Claim 1. It is, therefore, respectfully submitted that Claims 2 -9 are also not anticipated and are patentable over the art of record for at least these reasons as well as additional features contained therein.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at (609) 734-6440, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Respectfully submitted,

By: Catherine A. Ferguson
Catherine A. Ferguson
Attorney for Applicant[s]
Reg. No. 40,877
Phone (609) 734-6440

Patent Operations
THOMSON Licensing, Inc.
P.O. Box 5312
Princeton, New Jersey 08543-5312
October 21, 2004

CERTIFICATE OF MAILING

I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, Alexandria, VA 22313-1450 on:

10/21/04
Date

Karen Schlauch
Administrator Name